

WHAT IS CLAIMED IS:

1. A stator for use in a two rotor single stator type electric motor in which inner and outer rotors are rotated independently in and around the stator upon application of current to the stator,
5 the stator comprising:
 - a stator core including a plurality of stator teeth that are circumferentially arranged around a common axis at evenly spaced intervals leaving a plurality of identical spaces each being defined between adjacent two of the stator teeth, each stator
10 tooth including a plurality of flat magnetic steel plates that are aligned along the common axis while intimately and closely contacting to one another;
 - a plurality of coils put around the stator teeth respectively;
 - bolts that extend through the identical spaces of the stator
15 core in a direction parallel with the common axis for combining the flat magnetic steel plates to have a fixed structure of the stator core;
 - a molded plastic that fills the identical spaces of the stator core; and
 - 20 a plurality of elongate plate bars that extend in the identical spaces through the molded plastic respectively, each elongate plate bar extending in parallel with the common axis and being constructed of a magnetic material that has an electric resistance higher than the bolts.
- 25 2. A stator as claimed in Claim 1, in which each of the elongate plate bars extends in the vicinity of at least one of the inner and outer rotors.
- 30 3. A stator as claimed in Claim 1, in which each of the elongate plate bars is a laminated magnetic metal bar that comprises a plurality of magnetic steel thin plates that are combined by an insulating member.

4. A stator as claimed in Claim 1, further comprising other elongate plate bars that are constructed of a magnetic material and extend in the identical spaces through the molded plastic respectively, each of the other elongate plate bars extending in
5 parallel with the common axis and constructed of a magnetic material that has an electric resistance higher than the bolts.
5. A stator as claimed in Claim 1, in which each of the elongate plate bars extends in the vicinity of a selected one of the
10 inner and outer rotors, the selected one rotor having polar pairs of which number is smaller than those of the other rotor.
6. A stator as claimed in Claim 1, in which each of the elongate plate bars has lateral edges that contact the adjacent
15 two of the stator teeth respectively.
7. A stator as claimed in Claim 1, in which each of the elongate plate bars is a powder magnetic core.
- 20 8. A stator as claimed in Claim 7, in which each of the elongate plate bars has lateral edges that contact the adjacent two of the stator teeth respectively.
9. A stator as claimed in Claim 1, in which each of the
25 elongate plate bars is placed between the bolt and a radially inner surface of the stator.
10. A stator as claimed in Claim 1, in which each of the elongate plate bars is placed between the bolt and a radially
30 outer surface of the stator.
11. A stator for use in a two rotor single stator type electric motor in which inner and outer rotors are rotated independently in and around the stator upon application of a compound electric
35 current to the stator, the stator comprising:

a stator core including a plurality of stator teeth that are circumferentially arranged around a common axis at evenly spaced intervals leaving a plurality of identical spaces each being defined between adjacent two of the stator teeth, each stator
5 tooth including a plurality of flat magnetic steel plates that are aligned along the common axis while intimately and closely contacting to one another;

a plurality of coils put around the stator teeth respectively;
two supporting brackets between which the stator teeth of
10 the stator core are sandwiched;

bolts and nuts that fasten the two supporting brackets to tightly and intimately connect the magnetic steel plates of each stator tooth to one another, the bolts extending through the identical spaces in parallel with the common axis;

15 a molded plastic that fills the identical spaces of the stator core; and

a plurality of elongate plate bars that extend in the identical spaces through the molded plastic respectively, each elongate plate bar extending in parallel with the common axis and being
20 constructed of a magnetic material that has an electric resistance higher than the bolts.

12. A two rotor single stator type electric motor powered by a compound electric current, comprising:

25 a cylindrical stator that includes a stator core including a plurality of stator teeth that are circumferentially arranged around a common axis at evenly spaced intervals leaving a plurality of identical spaces each being defined between adjacent two of the stator teeth, each stator tooth including a plurality of
30 flat magnetic steel plates that are aligned along the common axis while intimately and closely contacting to one another; a plurality of coils put around the stator teeth respectively; bolts that extend through the identical spaces of the stator core in a direction parallel with the common axis for combining the flat magnetic
35 steel plates to have a fixed structure of the stator core; a molded

plastic that fills the identical spaces of the stator core; and a plurality of elongate plate bars that extend in the identical spaces through the molded plastic respectively, each elongate plate bar extending in parallel with the common axis and being constructed of a magnetic material that has an electric resistance higher than the bolts;

a cylindrical inner rotor rotatably received in the cylindrical stator, the inner rotor having a plurality of permanent magnets disposed thereon; and

a cylindrical outer rotor rotatably disposed around the cylindrical stator, the outer rotor having a plurality of permanent magnets disposed thereon.